Understanding the Structure and Improved Prediction of Hurricanes

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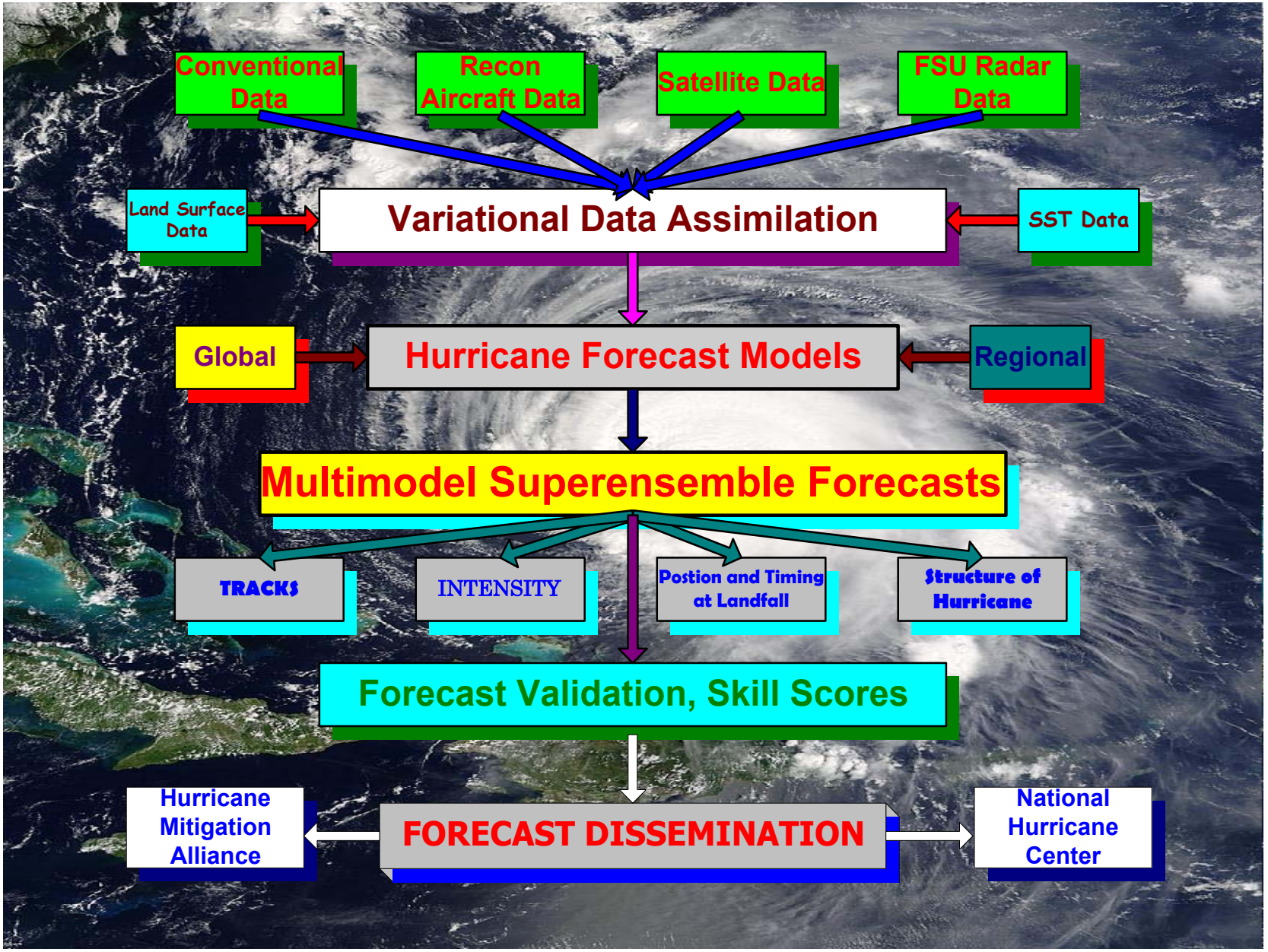
Overall Project Goal

Provide improved forecasts for hurricane tracks, intensity, landfall (position and timing) and inland floods



Schematic illustration depicting different components of the proposal

FSU Mobile Doppler Radar Facility

MDRF - Summary

- Two tightly linked 5 cm polarimetric Doppler radar systems
- Computer-controlled transmitters, receivers and signal processors housed in the former sleeping quarters of the cab
- Antenna is raised and lowered by a remote hydraulic system
- GPS location and orientation tracking
- Two pairs of outriggers that extend out to 20 ft, for stabilization in severe-weather elements.

Overall MDRF Plans

- Develop and test techniques for optimum deployment for use in gathering data from tropical cyclones by itself and in consortia with other groups (Year 1)
- Use the facility, by itself and/or in consortia with other mobile radars, to gather data from several land falling tropical systems in conjunction with conventional, but enhanced data gathering missions, during the 2005 and 2006 (Years 2 and 3)
- Study improvements made in hurricane prediction made through the assimilation of radar data products – the spatial distributions of wind velocity and rainfall (Years 2 and 3)